

Island STYLE

Making a Point!



SUBJECT: Social Studies GRADE LEVEL: 6th

TIMEFRAME: 45 minutes

MATERIALS:

- Background information sheet
- Point-of-View sheet



ACTIVITY SUMMARY:

Students will role play as community stakeholders to debate issues associated with the Gulf of Mexico.

LEARNING OBJECTIVES:

- \circ $\;$ Students will learn about an assigned point of view and debate a current event.
- Students will identify key information and express those points orally.
- Students will look at how roles in society are linked.

ALIGNMENT:

TEKS

6.3 (C) - Compare various world regions and countries using data from geographic tools, including maps, graphs, charts, databases, and models

- 6.13 (A) Describes roles and responsibilities of citizens in various contemporary societies, including the United States
- 6.21 (D) Identify different points of view about an issue or current topic
- 6.21 (E) Identify elements of frame of reference that influence participants in an event (22) (C). Further, ideal are like
- 6.22 (C) Express ideas orally

Ocean Literacy Principles

- 1 Earth has one big ocean with many features
- 2 The ocean and life in the ocean shape the features of Earth
- 3 The ocean is a major influence on weather and climate
- 4 The ocean makes Earth habitable
- 5 The ocean supports a great diversity of life and ecosystems
- 6 The ocean and humans are inextricably interconnected
- 7 The ocean is largely unexplored

BACKGROUND INFORMATION:

Fish provide nutrition, jobs, and well-being to people. We eat them for health and tradition; we snorkel with them for spirituality and fun; we hunt them for sport and recreation; we go to aquariums to watch them with family; we rely on them for community and employment. The United Nations estimates that fish support the livelihoods of 10-12% of the world. Ensuring their sustainability is important!

Fish concentrate in areas of high **primary productivity**. Primary productivity in the ocean is the same as on land: photosynthetic organisms like plants, algae, and phytoplankton turn sunlight into organic matter. Photosynthesizing organisms are then eaten by larger organisms, which are then eaten by larger organisms, et cetera.

To find out where fish live, we can look at where photosynthesizing organisms live. Modern satellites make this easy: this map shows productivity in the ocean as measured by chlorophyll concentrations in the water.



As you can see, the most productive region in the world is near Alaska—sure enough, the North Pacific Ocean provides more wild-caught fish than any other region. The world's most-eaten fish, pollock, comes from this area.

THREE TYPES OF FISHING:

There are **three** different kinds of fishing defined by the scale and purpose of the fishing being done: **recreational fishing**, **subsistence & small-scale fishing**, **and commercial fishing**.

- 1. **Recreational Fishing** people *enjoy* fishing in many ways: fly fishing creeks, lakes, and rivers can be peaceful meditation; an afternoon spent fishing from a local pier can be important family time; diving and spearing fast-moving fish is an exhilarating challenge for many, and there is no better feeling than cooking and eating your catch with loved ones. In Texas over 3000 people are employed as recreational fishing guides.
- 2. **Subsistence / Small-Scale Fishing** In many parts of world, especially in coastal and island communities, where industry, trade, and wealth are not yet developed, fishing can be one of the only sources of food and money and therefore plays an important part in food security, nutrition, and development. 90% of all people who fish for livelihood do so in small-scale fisheries. In Texas, many families catch all the fish they eat instead of purchasing fish at a market or store.
- 3. **Commercial Fishing -** Modern society evolved from the most basic human need: to eat. Early humans stopped migratory hunting & gathering when they realized they could stay in one place if they grew their own food. Agriculture allowed permanent communities, and civilization was born. Population growth, technology, and taste have brought us to a modern system of large, industrial farming and processing that makes food more accessible than ever in human history. Commercial fishing contributes to food and protein accessibility—and typically without the environmental costs of land-based food production! In Texas, over 15,000 people are employed in the commercial fishing industry. These people work on boat, at docks and at processing facilities.

VOCABULARY

- Aquaculture The breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments
- Fishing The activity of catching fish, either for food or as a sport
- Primary Production The creation of new organic matter by plants and other autotrophs
- Sustainable Able to be maintained at a certain rate or level
- Unsustainable Not able to be maintained at the current level or rate

PREPARATION:

Print and cut apart the stakeholder position cards for each group. Print the information sheet for each "expert" group.

INTRODUCTION:

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Introduce to students the concept of "fishing"

- By a show of hands, how many of you...
 - Like to eat fish, crab, or shrimp?
 - Have ever watched a friend or family member catch a fish?
 - Have ever caught a fish on your own?
 - Did you use a net? a rod and reel?
 - For those of you that have caught your own fish, what did you do with the fish that you caught? (throw it back, eat it, use it as bait...)
 - Why?

Wild fisheries are a complex and fascinating natural resource—they are extractive yet renewable, vulnerable yet resilient. About half of the world's seafood is wild-caught and about half is raised in farms called aquaculture.

GUIDED PRACTICE:

Debate Topic 1:

Building wind turbines offshore

US Department of Interior has proposed the first-ever offshore wind lease sale in the Gulf of Mexico.



The Proposed Sale Notice announced includes a 102,480-acre area offshore Lake Charles, Louisiana, and two areas offshore Galveston, Texas, one comprising 102,480 acres and the other comprising 96,786 acres. These areas have the potential to power almost 1.3 million homes with clean energy.

In 2022, BOEM reduced the size of the two areas from their draft versions to address concerns expressed by the Department of Defense and the US Coast Guard regarding shipping, marine navigation, and military operations.

The Biden administration announced in July 2022 that it would pursue the development of offshore wind energy in the Gulf, which is already a hub for oil and gas production.

Debate Topic 2: The Great Red Snapper Count



The HARTE Research Center together with 80 scientists completed a study in 2021 that estimated that there were 118 million Red Snapper in the Gulf of Mexico. This estimate is up from the previous 2016 federal estimate of 36 million that the catch limits have been based on for the last several years. However, the newly counted fish aren't where you typically fish. Many of the fish included in the new estimate were located offshore on low relief habitats. While the majority of current red snapper fishing takes place on artificial structures close to shore.

In January of 2023, NOAA Fisheries formally revised the overfishing limit and acceptable Biological Catch based on this data.



INDEPENDENT / GROUP PRACTICE:

DEBATE ACTIVITY:

- Split class into "home groups" about 4 teams of 6 participants
- For each home group, assign each of the 6 participants to a different stakeholder position
- Allow time for the same stakeholders of each group to meet together, brainstorm ideas, share perspectives, and become "experts" in their position
- Allow for each viewpoint representative to rejoin original group
- Provide prompts from the topics to consider list to each stakeholder group and allow students to discuss.

LIST OF STAKEHOLDERS:

- Fishermen/women people who catch the fish
- Seafood companies people who sell seafood products
- Seafood consumers people who eat the fish
- Animal rights activists people who believe harvesting fish for food is morally wrong / animals should not be eaten
- Fishery managers people who are decision-makers that make/enforce regulations for commercial fisheries
- Conservationists people who want what is best for the planet and strive for good management



Economic impact trends of 2020 from Fisheries Economics of the United States 2020. 1.7 million jobs, \$253 billion in sales, \$117 billion in value added impacts. 1.1 million commercial jobs, 595 thousand recreational jobs. \$154.7 billion commercial sales, \$98 billion recreational sales. \$62.5 billion commercial value added impacts, \$55 billion recreational value added impacts.

ASSESSMENT OF LEARNING:

Student Reflection Activity:

- Do you support the position you were assigned to?
 Why or why not?
 - After this debate, would you choose to represent a different group?
 - Why or why not?

CLOSING:

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As you teach lessons linked to the Galveston Bay Watershed and the Gulf of Mexico, you can use the "I Wonder" Board as a closure assignment.

You might remind them that they are stakeholders in these debates and in many more island topics. You might ask them what other island topics they might be concerned about. Students may ask about dune restoration, beach renourishment, sea level rise, fisheries manufacturing, or even about the laws concerning other species of fish. All of their questions (even the ones asked multiple times) will go on the "I Wonder" Board. If a question was answered in the lesson, it can still be placed on the board.

Students may even have follow-up questions after these lessons that could be added to the board. The goal is to have a place for all questions about the Galveston Bay and the Gulf of Mexico in one place.

EXTENSION:

For more information on the Seafood Watch program or to print out watch cards for your students, you can go to <u>www.seafoodwatch.org</u>. For the Harte snapper report, please go to www.harteresearch.org.

NOTES:

STAKEHOLDER POSITION CARDS



Fishermen/women

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?



Seafood companies

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?

STAKEHOLDER POSITION CARDS



Fishery managers

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?



Conservationists

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?

STAKEHOLDER POSITION CARDS



Seafood consumers

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?



Animal rights activists

- What do these people do and value?
- How might they be impacted by the wind turbines (think about positive impacts and negative impacts)?
- How might they be impacted by the change in red snapper limits (think about positive impacts and negative impacts)?



Fisheries:

- Wild-caught seafood can be **sustainable**, where populations are taken at a rate and quantity that allows them to naturally replenish and renew; or **unsustainable** when humans take more than can naturally be replaced. A fishery is sustainable when the amount harvested does not compromise future harvests. Eating sustainable seafood ensures that you and others can enjoy that same meal in the future.
- Fish provide hundreds of millions of people with livelihoods and their primary source of protein, and they are one of the least environmentally impactful foods people can eat.
- Not all fisheries are great. Poor fisheries management that leads to overexploitation continues to be a problem in parts of the Gulf of Mexico.
- In 2021 commercial fisherman caught 7.7 million pounds of red snapper that went into restaurants and grocery stores, while recreational fisherman caught 10.3 million pounds for home consumption.
- According to the Texas Marine Mammal Stranding Network, dolphins and whales are protected federally under the Marine Mammal Protection Act. The MMPA provides for both civil and criminal penalties for illegal "takes," a term that includes harassing, feeding, or disturbing marine mammals in the wild. Potential penalties include fines of up to \$100,000 and imprisonment for up to one year per violation.



Wind Turbines

- Offshore wind turbines are more efficient than those on land.
- These two areas could produce 10% of the country's wind energy.
- Habitat destruction will occur at each site but will be minimized.
- Wind turbines will be built in less than 200 feet of water. This will create underwater structure and habitat at each location. They will also stick out of the water 100's of feet creating shade.
- o Visual impact from the beach will be managed by the Bureau of Land Management Office of Visual Resources
- NOAA is developing publicly available tools for assessment, planning, and mitigation of noise-making activities underwater. These Guidelines are not mandatory and are intended to provide general advice about reduction of underwater noise to designers, shipbuilders and ship operators. All ocean noise does not have the same impact. Sources of ocean noise vary in many ways including how loud they are (intensity, measured in decibels), how long they last (fractions of a second to continuous), and their pitch or tone (frequency, measured in hertz).

Topics you might want to consider

- **Overfishing** catching fish faster than they can reproduce puts pressure on ocean ecosystems. Strong science-based management is key to protecting wild fish populations.
- **Climate** it takes a lot of fuel to grow, package, and transport food around the world, which generates carbon dioxide and other greenhouse gases that contribute to climate change.
- **Preserve habitats** some fishing and farming practices leave their mark on the nearby habitat. How and where seafood is fished and farmed can make all the difference in protecting ocean habitats.
- **Protect human rights** seafood sustainability also ensures fair, safe working conditions for the people who produce the seafood.
- **Stop illegal fishing** without strong management and enforcement policies, illegal fishing can occur putting wild species and habitats at risk.
- **Strong management** a key to sustainable fisheries and aquaculture is science-based management and strong enforcement of regulations.